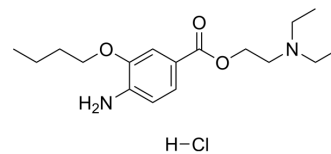


Oxybuprocaine hydrochloride

Cat. No.:	HY-B1288
CAS No.:	5987-82-6
Molecular Formula:	C ₁₇ H ₂₉ ClN ₂ O ₃
Molecular Weight:	344.88
Target:	Sodium Channel
Pathway:	Membrane Transporter/Ion Channel
Storage:	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (289.96 mM; Need ultrasonic)
 H₂O : ≥ 100 mg/mL (289.96 mM)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	2.8996 mL	14.4978 mL	28.9956 mL
	5 mM	0.5799 mL	2.8996 mL	5.7991 mL
	10 mM	0.2900 mL	1.4498 mL	2.8996 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.5 mg/mL (7.25 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.5 mg/mL (7.25 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.5 mg/mL (7.25 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Oxybuprocaine hydrochloride (Benoxinate hydrochloride) reversibly blocks sodium channels and prevents propagation of painful nerve impulses in the cornea, conjunctiva, and sclera. Oxybuprocaine hydrochloride is used especially in ophthalmology and otolaryngology^{[1][2][3]}.

In Vivo

Oxybuprocaine hydrochloride (Benoxinate hydrochloride; 27.6, 51.7, 103.5, 413.9 μg; s.c.) provides a dose-dependent block to pinpricks in rats^[1].
 Oxybuprocaine hydrochloride (27.6 μg) produces 100% of sensory/nociceptive block^[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male Sprague-Dawley rats (203-253 g) ^[1]
Dosage:	27.6, 51.7, 103.5, 413.9 µg
Administration:	SC
Result:	Provided a dose-dependent block to pinpricks.

REFERENCES

- [1]. Chen YW, et al. The Addition of Epinephrine to Proxymetacaine or Oxybuprocaine Solution Increases the Depth and Duration of Cutaneous Analgesia in Rats. *Reg Anesth Pain Med.* 2016 Sep-Oct;41(5):601-6.
- [2]. Chen YW, et al. Adding Dopamine to Proxymetacaine or Oxybuprocaine Solutions Potentiates and Prolongs the Cutaneous Antinociception in Rats. *Anesth Analg.* 2018 May;126(5):1721-1728.
- [3]. Page M, et al. Safety, efficacy, and patient acceptability of lidocaine hydrochloride ophthalmic gel as a topicalocular anesthetic for use in ophthalmic procedures. *Clin Ophthalmol.* 2009;3:601-9. Epub 2009 Nov 2.

Caution: Product has not been fully validated for medical applications. For research use only.

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